CLAIMS

1. An optometric apparatus for performing an eye examination using a computer screen, comprising:

subject attribute acquisition means for acquiring an attribute of a subject;

astigmatic axis determination chart display means for displaying an astigmatic axis determination chart on the screen;

orientation acquisition means for acquiring an orientation selected by the subject on the astigmatic axis determination chart displayed;

first vision measurement chart display means for displaying on the screen a vision measurement chart having the acquired orientation;

first visual recognition limit acquisition means for acquiring a visual recognition limit selected by the subject on the first vision measurement chart displayed;

second vision measurement chart display means for displaying on the screen a vision measurement chart having an orientation perpendicular to the acquired orientation;

second visual recognition limit acquisition means for acquiring a visual recognition limit selected by the subject on the second vision measurement chart displayed;

far point distance calculation means for employing the

acquired first visual recognition limit, the acquired second visual recognition limit, and the acquired subject attribute as entry parameters to calculate a first far point distance and a second far point distance; and

power calculation means for calculating a refractive power based on the acquired orientation and the calculated first and second far point distances.

2. The optometric apparatus according to claim 1, wherein

the first vision measurement chart display means and the second vision measurement chart display means have display means for sequentially displaying on screen display means a plurality of vision test charts of a combination of targets having a size level difference of two or more, and

the first visual recognition limit acquisition means and the second visual recognition limit acquisition means include selection means for allowing the subject to select the smallest recognizable target on each vision test chart displayed on the screen display means, and determination means for determining the subject's smallest recognizable target from the smallest recognizable targets selected on each vision test chart.

3. The optometric apparatus according to claim 2, wherein

the display means for sequentially displaying on the screen display means a plurality of vision test charts displays three vision test charts, each vision test chart

including targets having a level difference of three.

4. The optometric apparatus according to claim 2 or 3, wherein

the display means for determining the subject's smallest recognizable target from the smallest recognizable targets selected on each vision test chart includes determination means for determining the smallest target in a combination of targets having a size level difference of one as the subject's smallest recognizable target when the selection means for selecting the smallest recognizable target on each vision test chart displayed on the screen display means has selected targets having a minimum level difference of one.

5. The optometric apparatus according to claim 2 or 3, wherein

the determination means for determining the subject's smallest recognizable target from the smallest recognizable targets selected on each vision test chart includes determination means for determining a target between the smallest targets in combination among combinations of targets having a minimum level difference of two as the subject's smallest recognizable target when the selection means for selecting the smallest recognizable target on each vision test chart displayed on the screen display means has selected targets having a minimum level difference of two.

6. The optometric apparatus according to claim 2 or 3,

wherein

the determination means for determining the subject's smallest recognizable target from the smallest recognizable targets selected on each vision test chart includes selection means for displaying a plurality of vision test charts again on the screen display means to allow the subject to select the smallest recognizable target on each of the plurality of vision test charts when the selection means for selecting the smallest recognizable target on each vision test chart displayed on the screen display means has selected targets having a minimum level difference of three or more.

7. The optometric apparatus according to any of claims 1 to 6 wherein

the far point distance calculation means has a function of calculating a far point distance using a learn model which has been taught by a number of subjects about the relation between the subject's attribute and the visual recognition limit, and the far point distance.

8. The optometric apparatus according to any of claims 1 to 7, comprising near point distance measurement chart display means for displaying a near point distance measurement chart on the screen, and near point distance acquisition means for acquiring a near point distance entered by the subject on the near point distance measurement chart displayed.

9. The optometric apparatus according to any of claims 1

to 8, wherein

the astigmatic axis determination chart display means has a function of displaying four groups of a plurality of parallel lines, groups having lines arranged in their respective orientations.

10. The optometric apparatus according to any of claims 1 to 9, wherein

at least one of the first vision measurement chart display means and the second vision measurement chart display means has a function of displaying a plurality of light and dark line images having a different line width.

11. The optometric apparatus according to any of claims 1 to 10, wherein

at least any of the astigmatic axis determination chart display means, the first vision measurement chart display means, and the second vision determination chart display means has screen display information acquisition means for acquiring screen display information on the computer screen, and display size rescale means for rescaling the display size of the computer screen depending on the acquired screen display information.

12. The optometric apparatus according to any of claims 1 to 11, wherein

at least any of the astigmatic axis determination chart display means, the first vision measurement chart display

means, and the second vision determination chart display means has display color selection means for selecting a color to be displayed on the computer screen.

13. The optometric apparatus according to any of claims 1 to 12, wherein

at least any of the astigmatic axis determination chart display means, the first vision measurement chart display means, and the second vision determination chart display means has display brightness selection means for selecting a brightness used for display on the computer screen.

14. An optometric method for performing an eye examination using a computer screen, the method comprising:

a subject attribute acquisition step for acquiring an attribute of a subject;

an astigmatic axis determination chart display step for displaying an astigmatic axis determination chart on the screen;

an orientation acquisition step for acquiring an orientation selected by the subject on the astigmatic axis determination chart displayed;

a first vision measurement chart display step for displaying on the screen a vision measurement chart having the acquired orientation;

a first visual recognition limit acquisition step for acquiring a visual recognition limit selected by the subject

on the first vision measurement chart displayed;

a second vision measurement chart display step for displaying on the screen a vision measurement chart having an orientation perpendicular to the acquired orientation;

a second visual recognition limit acquisition step for acquiring a visual recognition limit selected by the subject on the second vision measurement chart displayed;

a far point distance calculation step for employing the acquired first visual recognition limit, the acquired second visual recognition limit, and the acquired subject attribute as entry parameters to calculate a first far point distance and a second far point distance; and

a power calculation step for calculating a refractive power based on the acquired orientation and the calculated first and second far point distances.

15. The optometric method according to claim 14, characterized in that the first and the second vision measurement chart display steps have a display step for sequentially displaying on screen display means a plurality of vision test charts of a combination of targets having a size level difference of two or more, and

the first visual recognition limit acquisition step and the second visual recognition limit acquisition step include a selection step for allowing the subject to select the smallest recognizable target on each vision test chart displayed on the

screen display means, and a determination step for determining the subject's smallest recognizable target from the smallest recognizable targets selected on each vision test chart.

16. An optometric server for providing a function of performing an eye examination using a computer screen to a client computer connected to a network, the server comprising:

subject attribute acquisition means for acquiring an attribute of a subject;

astigmatic axis determination chart display means for displaying an astigmatic axis determination chart on the screen;

orientation acquisition means for acquiring an orientation selected by the subject on the astigmatic axis determination chart displayed;

first vision measurement chart display means for displaying on the screen a vision measurement chart having the acquired orientation;

first visual recognition limit acquisition means for acquiring a visual recognition limit selected by the subject on the first vision measurement chart displayed;

second vision measurement chart display means for displaying on the screen a vision measurement chart having an orientation perpendicular to the acquired orientation;

second visual recognition limit acquisition means for acquiring a visual recognition limit selected by the subject

on the second vision measurement chart displayed;

far point distance calculation means for employing the acquired first visual recognition limit, the acquired second visual recognition limit, and the acquired subject attribute as entry parameters to calculate a first far point distance and a second far point distance; and

power calculation means for calculating a refractive power based on the acquired orientation and the calculated first and second far point distances.

17. optometric server for performing eye examinations, which provides a vision test chart to a client terminal connected to a network, the chart containing a plurality of targets having sizes varied in a stepwise manner corresponding to visual acuity, and allows a subject to select the smallest recognizable target on the vision test chart displayed on screen display means of the client terminal, thereby allowing the subject to subjectively measure his visual acuity, the server comprising:

vision test chart image data provision means for providing vision test chart image data so that a plurality of vision test charts of a combination of targets having a size level difference of two or more are displayed sequentially on the screen display means of the client terminal;

distinctive recognizable target acquisition means for acquiring the smallest recognizable target selected by the

subject on each vision test chart displayed on the screen display means of the client terminal; and

recognizable target determination means for determining the subject's smallest recognizable target from each distinctive recognizable target acquired by the distinctive recognizable target selection means.

18. An optometric method for performing an eye examination, in which a vision test chart containing a plurality of targets having sizes varied in a stepwise manner corresponding to visual acuity is displayed on screen display means and a subject is allowed to select the smallest recognizable target on the vision test chart displayed on the screen display means, thereby allowing the subject to subjectively measure his/her visual acuity, the method comprises the steps of:

sequentially displaying on the screen display means a plurality of vision test charts of a combination of targets having a size level difference of two or more;

allowing the subject to select the smallest recognizable target on each vision test chart displayed on the screen display means; and

determining the subject's smallest recognizable target from the smallest recognizable targets selected on each vision test chart.